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Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Wireless Internet Service Providers Association**
**GN Docket No. 17-258**
**Written Ex Parte Presentation**

Dear Ms. Dortch:

The Citizens Broadband Radio Service ("CBRS") is intended to encourage innovation and advance new ways of providing service and encouraging competition, bringing broadband to Americans that are unserved or underserved. The use of Census Tracts as the geographic basis for auctioning CBRS licenses, as adopted by the Commission in 2015, allows all providers to participate in an auction and advance the deployment of fixed and mobile broadband. It also allows smaller entities to effectively deploy broadband service to rural Americans.

It is in that spirit that the Wireless Internet Service Providers Association ("WISPA") responds to erroneous and misleading analysis submitted in the record by each of T-Mobile[1] and AT&T Services, Inc. ("AT&T").[2] As demonstrated herein, auctioning Priority Access Licenses ("PALs") by Census Tracts will not create the deployment difficulties that T-Mobile and AT&T both allege, but rather will enable the Commission to ensure more robust participation in competitive bidding, especially in rural areas where coverage and connectivity to unserved Americans is desperately needed.

[1] *See* Letter from Steve B. Sharkey, T-Mobile, to Marlene H. Dortch, FCC Secretary, GN Docket No. 17-258, *et al.* (dated Feb. 8, 2018) ("T-Mobile Letter").

[2] *See* Letter from Stacey G. Black, AT&T, to Marlene H. Dortch, FCC Secretary, GN Docket No. 17-258 (dated Apr. 5, 2018) ("AT&T Letter"). WISPA notes that the AT&T Letter is confined to a discussion of Census Tracts in *urban* areas.

Both T-Mobile and AT&T claim that Census Tract-based PAL areas are unworkably small.[3] Both, however, misstate the way the existing PAL rules work. Properly understood, the carefully crafted PAL rules the Commission unanimously adopted in 2015 do not stand in the way of intensive and efficient use of the 3550-3700 MHz band. The problems they allege simply do not exist; they will be able to provide exactly the same service with multiple Census Tract-based PALs as they would with fewer larger PALs.

A fundamental concept of the Part 96 rules is the difference between the area licensed to PALs and the PAL Protection Area ("PPA"). Relevant to this discussion, Section 96.21(b)(1)(i) states that "[a]n SAS [Spectrum Access System] must assign geographically contiguous PALs held by the same Priority Access Licensee to the same channels in each geographic area, to the extent feasible." This rule demonstrates that PPAs are not constrained by the boundaries of the PAL area, as AT&T asserts,[4] and the deployment concerns AT&T posits are entirely unfounded.[5] Rather, the rules make clear that contiguous PAL license areas held by one licensee must be treated as a single larger PAL area.

Thus, other than as required for incumbent protection, PALs must be given the same channel by the SAS across any large contiguous set of PALs that a licensee may acquire, regardless of the size or shape of a single geographic license. In this regard, the rules treat contiguous PALs as a single geographic area for protection purposes, thereby facilitating deployment on the same frequencies throughout the larger area. Licensing by Census Tract simply allows a bidder to purchase PALs to cover exactly the area they intend to serve, large or small. Moreover, the low-power small cells that T-Mobile and AT&T are likely to deploy under their PALs have a typical service radius of only a few hundred meters, so their claims – even if true – would appear to impose no hardship on them. By contrast, those entities that intend to acquire PALs for wide-area coverage, such as WISPA's members, have professed none of the theoretical misgivings T-Mobile and AT&T assert.

A second feature differentiating PALs from traditional geographic-area licenses is that there is no obligation to prevent signals from leaving one's PAL area. A PAL area boundary (which, again, may consist of many contiguous PALs) only creates a limit to the size of a PPA, which is formed by the SAS based on calculated -96 dBm signal contours from one or more devices authorized to operate inside the PAL area. If a licensee were to have a Citizens

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[3] *See, e.g.*, T-Mobile Letter at 2 ("the use of census tracts will materially impair licensees' ability to use their authorized spectrum – and the ability of spectrum access system ("SAS") administrators to manage the spectrum for *both* licensed and GAA users – because the number of geographic area borders created") (emphasis in original). T-Mobile also argues that "these same significant engineering challenges exist even under a county-based licensing approach, particularly in urban areas where a large number of counties are still required to serve an economic area" *Id.* Aside from the baseless technical argument refuted herein, the Commission most assuredly should discount T-Mobile's self-serving statements that ignore the interests of millions of rural Americans that should have access to CBRS to provide a first fixed broadband service.

[4] *See id.*, Presentation at 2.

[5] *See* AT&T Letter at 1.

Broadband Service Device ("CBSD") operating near the edge of its licensed PAL area, such that the signal contour extended outside of the PAL area, the signals from CBSDs whose service contours form the PPA would be treated as General Authorized Access ("GAA") outside of the PAL area, and are not protected there. But like any GAA, they are still allowed to extend into another licensee's PAL area, so long as the aggregate signal level does not exceed interference margins within the other PPA (not simply within the other's PAL area). Indeed, if PALs are made larger than Census Tracts, there will be larger portions of many PAL areas that are still usable for GAA, as small cells are unlikely to ever be viable in more than a small percentage of the country's land area. Fixed service as provided by WISPs, however, has a larger service range and is thus well suited to serving rural areas, and many WISPs would prefer to only invest in CBRS if they have access to PALs at the Census Tract level.

Moreover, PAL holders are permitted to enter into agreements with other PAL holders to promote flexibility in their respective operations where, for instance, Census Tract boundaries do not conform to deployment or service objectives. The Commission expressly stated that:

> It is our policy to encourage technical flexibility wherever possible and it is clear from the record that several commenters desire such flexibility here. By leveraging the capabilities of the SAS, licensees will hopefully be able to reach agreement on maximum signal thresholds that will maximize the utility of the band, promote spectral reuse, and facilitate efficient network planning. As such, *we find that holders of geographically and spectrally adjacent licenses may mutually consent to different thresholds than the mandatory baseline.* Such agreements must be communicated to an SAS Administrator. The SAS Administrator shall enforce these agreements to the extent that such agreements do not conflict with its other responsibilities under the rules or cause impermissible interference to other Citizens Broadband Radio Service users of the same or higher tier.[6]

Being familiar with Service Area Boundary extension agreements widely used in commercial mobile services, carriers such as T-Mobile and AT&T will likely be well-equipped to enter into such arrangements where it would be mutually beneficial to their business objectives.

The sum total of all GAA signals at any point within a PPA may not exceed -80 dBm. This is a -16 dB worst case protection margin. T-Mobile, however, misstates the rule: "Current rule: signal strength at any PAL boundary from adjacent PAL or GAA area may not exceed -80 dBm in 10 MHz."[7] AT&T similarly states that "[t]he rules also provide for an aggregate CBSD signal level of -80 dBm/10 MHz for all CBSDs deployed around a Census Tract (47 CFR §96.41(d))."[8] Those statements are simply not true. Aggregate unwanted signal strength within a

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[6] *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, 30 FCC Rcd 3959, 4022 (2015) (emphasis added).
[7] T-Mobile Letter, Presentation at 6.
[8] AT&T Letter, Presentation at 2.

*PAL Protection Area* ("PPA") may not exceed -80 dBm, but unless the licensee of an adjacent PAL area, which itself may include many contiguous PALs, has a PPA right up to its boundary, then the -80 dBm level only applies within the PPAs themselves, not to the PAL boundary. This fundamental misunderstanding of the Commission's rules serves only to generate unfounded fears of deployment difficulties.

And even if a PPA from another licensee does happen to reach a licensee's PAL area boundary, as could conceivably happen if a licensee failed to win a PAL for a particular tract within a metropolitan area, GAA signals (i.e., ones from outside of the protected PAL area, including from other licensees' PALs) can still have a signal level greater than the nominally-protected PAL signal. Signal contours can overlap, if below -80 dBm, so small cells can be engineered close to PAL boundaries. (For example, two PPAs can meet at a PAL area boundary with signals of -88 dBm.)

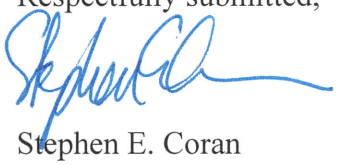
Furthermore, signal contours used to define PPAs, according to WinnForum standards, are *not* actual measured or even best-method predicted signal levels, potentially subject to the "RF propagation tunneling effect caused by building reflection" cited by T-Mobile.[9] PPA contours are both smoothed and compressed from the raw model, which itself does not factor in individual buildings. Thus, propagation effects and reflections are not factored in by the SAS, and thus do not limit operation outside of a PAL area (which is treated as GAA).

In sum, aggregated PALs are treated as one PAL area, protection is only granted to PPAs, not PAL areas, and PAL protection allows for some degree of nominal signal overlap. Where the rules do not provide deployment flexibility, the Commission has made clear that neighboring PAL holders are permitted to enter into private contracts that will be enforced by the SAS. Therefore, the cost of building a network out of small-area PALs will be no higher than building it out of large-area PALs. Further, the ability of purchasers of PALs to effectively utilize and aggregate PALs by Census Tracts is not diminished, nor is the effectiveness of deployments by Census Tracts. To this end, AT&T and T-Mobile have tried, erroneously, to create the illusion that larger PAL areas equate to a more effective system. We can only assume this effort is designed to promote deployments by large carriers that can afford the much greater cost of acquiring a large-sized PAL, and to prevent smaller entities from entering the ecosystem by denying them a meaningful opportunity to bid for and acquire PALs.

[9] T-Mobile Letter, Presentation at 8.

This letter is being filed electronically via the Electronic Comment Filing System in the above-captioned proceeding.

Respectfully submitted,



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